



Massachusetts Department of Environmental Protection  
Source Water Assessment and Protection (SWAP) Report  
for  
**Ipswich Water Division**

### What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

### Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, disinfecting, filtering, or treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

**Table 1: Public Water System Information**

<i><b>PWS Name</b></i>	Ipswich Water And Sewer Division
<i><b>PWS Address</b></i>	272 High Street
<i><b>City/Town</b></i>	Ipswich, Massachusetts 01938
<i><b>PWS ID Number</b></i>	3144000
<i><b>Local Contact</b></i>	Tim Henry – Director of Utilities
<i><b>Phone Number</b></i>	(978) 356-6635

### Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

#### Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures.

Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

#### This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection
4. Appendices

## Glossary

**Aquifer:** An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

**Hydrogeologic Barrier:** An underground layer of impermeable material (i.e. clay) that resists penetration by water.

**Recharge Area:** The surface area that contributes water to a well.

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

**Zone II:** The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

**Zone A:** is the most critical for protection efforts. It is the area 400 feet from the edge of the reservoir and 200 feet from the edge of the tributaries (rivers and/or streams) draining into it.

**Zone B:** is the area one-half mile from the edge of the reservoir but does not go beyond the outer edge of the watershed.

**Zone C:** is the remaining area in the watershed not designated as Zones A or B.

The attached map shows Zone A and your watershed boundary.

## Section 1: Description of the Water System

### Groundwater Sources

Well Name	Source ID#
<b>Zone II #: 477</b>	
<b>Susceptibility: High</b>	
Essex Road Wells	3144000-06G
Fellows Road Well	3144000-07G
<b>Zone II #: 520</b>	
<b>Susceptibility: High</b>	
Mile Lane Well	3144000-01G
<b>Zone II #: 521</b>	
<b>Susceptibility: High</b>	
Browns Well	3144000-02G
<b>Zone II #: 533</b>	
<b>Susceptibility: High</b>	
Winthrop Wells #1	3144000-03G
Winthrop Well #2	3144000-04G
Winthrop Well #3	3144000-05G

### Surface Water Sources

Source Name	Susceptibility: High
Dow Brook Reservoir	3144000-01S
Bull Brook Reservoir	3144000-02S

The wells for the Ipswich Water Division are located within four separate water supply protection areas, with a portion of the Winthrop Wells protection area extending into the town of Hamilton. Each well has a Zone I radius of 400 feet, except the tubular wells that make up part of Winthrop #1, which have a 250 foot Zone I radius. The wells are located in aquifers with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. confining clay layer) that can prevent contaminant migration. Please refer to the attached map of the Zone II.

The reservoirs for the Ipswich Water Division are located within two separate water supply protection areas, with a portion of the Dow Brook Reservoir water supply protection area extending into the town of Rowley.

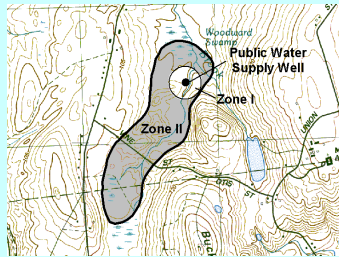
For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report. Drinking water monitoring reporting data is also available on the web at <http://www.epa.gov/safewater/ccr1.html>

## Section 2: Land Uses in the Protection Areas

The Zone IIs and Zone Cs for Ipswich are primarily a mixture of forest, agriculture, and residential, with a small portion consisting of commercial land uses (refer to attached map for details). Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix B.

### What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and a Zone II protection area.



### Key Land Uses and Protection Issues include:

1. Activities in Zone I
2. Activities in Zone A
3. Golf Course, Plant Nurseries, and Agricultural activities
4. Hazardous Materials Storage and Use
5. Residential Land Uses
6. Oil or Hazardous Material Contamination Sites
7. Comprehensive Wellhead Protection Planning

The overall ranking of susceptibility to contamination for the system is high, based on the presence of at least one high threat land use within the water supply protection areas, as seen in Table 2.

**1. Activities in Zone I** – The Zone I for each of the wells is a 400 foot radius around the wellhead. Winthrop Well #1 includes a naturally-developed well and 17 tubular wells. The Zone I around each tubular well is only a 250 foot radius. Massachusetts drinking water regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to own the Zone I, or control the Zone I through a conservation restriction. Only water supply activities are allowed in the Zone I. However, many public water supplies were developed prior to the Department's regulations and contain non-water supply activities such as homes and public roads. The following non-water supply activities occur in the Zone Is of the system wells:

**Mile Lane Well** - The pasturing of cattle occurs in the southern most portion of the Zone I; and Miles Lane cuts through the Zone I in a northeast to southwest direction.

**Brown's Well** - There are three (3) septic systems in the southwest portion of the Zone I; High Street cuts through the Zone I in a northwest to southeast direction; and there are 63 parking spaces, most of which are associated with an office building in the southwest portion of the Zone I.

**Winthrop Wells 1, 2 & 3** - There is the possibility that there are septic systems associated with two houses in the Zone I of Winthrop Wells 2 & 3, along with agricultural activities, pesticide, fertilizer and manure storage, and above ground fuel storage tanks. Also, it appears that there are agricultural activities in the southeast corner of the Zone I for Winthrop Wells #1.

### Zone I Recommendations:

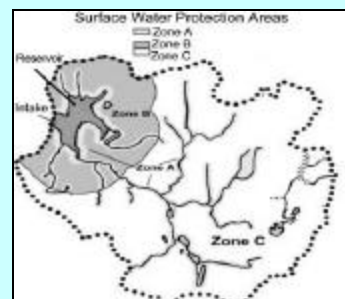
- ✓ To the extent possible, remove all non water supply activities from the Zone I to comply with DEP's Zone I requirements.
- ✓ Use BMPs for the storage, use, and disposal of hazardous materials such as water supply chemicals and maintenance chemicals.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.
- ✓ Keep any new non-water supply activities out of the Zone I.
- ✓ Agreement Options - Until land is available, attempt to obtain a *Memorandum of Understanding* and *Right of First Refusal*.

Memorandum of Understanding (MOU) is an agreement between the landowner and public water supplier in which the landowner agrees not to engage in specific threatening activities. The MOU should be specific to the land use or activity. For instance, if the land is residential with a septic system the owner could agree not to place chemicals, petroleum products, or other hazardous or toxic substances, including septic system cleaners into the septic system, and that the system will be pumped at a specific frequency. The application of lawn care chemicals could also be restricted. Understanding how and activity threatens drinking water quality is an important component of developing an effective MOU.

Right of First Refusal is a legal document that gives the water supplier first chance to purchase land when it becomes available. See *Right of First Refusal* in Appendices.

### What is a Watershed?

A watershed is the land area that catches and drains rainwater down-slope into a river, lake or reservoir. As water travels down from the watershed area it may carry contaminants from the watershed to the drinking water supply source. For protection purposes, watersheds are divided into protection Zones A, B and C.



**2. Activities in Zone A** - Existing and future land use activities which may have an impact on surface water sources include: on-site septic systems; public and private recreational activities; untreated stormwater runoff; uncontained storage of fertilizers, manure, domestic animals; new construction; spills along roads; above ground and underground storage tanks; erosion; and un-permitted and unauthorized activities.

Wild animals, farm animals, and domestic pets can be carriers of waterborne diseases such as Giardia, Cryptosporidium, Salmonella, etc. The following activities occur in the Zone A of the system's reservoirs:

**Dow Brook Reservoir** - The boarding of horses occurs in the Zone A northwest of the intake to the water treatment plant; there are numerous homes throughout the Zone A of the reservoir and tributaries to the reservoir, most of which are on private septic systems; and, the fairways from a golf course occur in the Zone A of tributaries to Dow Brook Reservoir.

**Bull Brook Reservoir** - There are numerous homes throughout the Zone A of the reservoir and tributaries to the reservoir, most of which are on private septic systems; and, the fairways from a golf course and agricultural activities occur in the Zone A of tributaries to Bull Brook Reservoir

#### **Zone A Recommendations:**

- ✓ To the extent possible, remove all activities from the Zone As to comply with DEP's Zone A requirements.
- ✓ Use BMPs for the storage, use, and disposal of hazardous materials such as water supply chemicals and maintenance chemicals.
- ✓ Storage of pesticides, fertilizers or road salt within the Zone A should be covered and contained.
- ✓ Keep any new prohibited activities out of the Zone A.

**3. Golf Course, Plant Nurseries and Agricultural Activities** – Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If not contained or applied properly, animal waste from barnyards, manure pits and field application is a potential source of contamination to ground and surface water. If managed improperly, Underground and Aboveground Storage Tanks (USTs and ASTs) can be potential sources of contamination due to leaks or spills of the fuel oil they store.

#### **Golf Course, Plant Nurseries and Agricultural Activities Recommendations:**

- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a US Natural Resources Conservation Service (NRCS) farm plan to protect water supplies.
- ✓ Encourage the farmers, nursery, and golf course managers to incorporate an **Integrated Pest Management (IPM)** approach into their pest management program. IPM is an ecologically-based approach to pest control that links together several related components, including monitoring and scouting, biological controls, mechanical and/or other cultural practices, and pesticide applications. By combining a number of these different methods and practices, satisfactory pest control can be achieved with less impact on the environment.

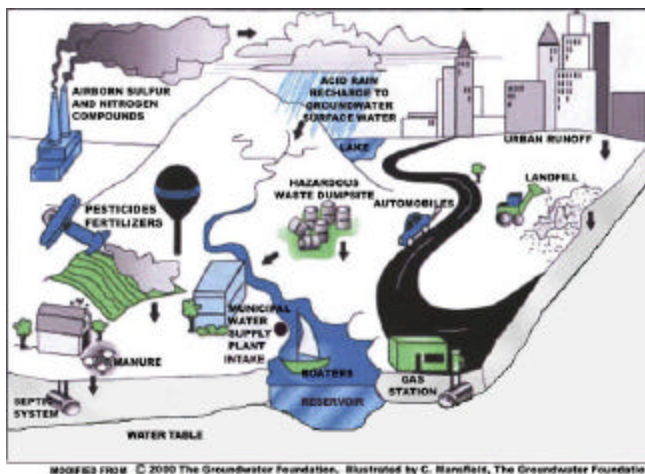


Figure 1: Sample watershed with examples of potential sources of contamination

#### **What are "BMPs?"**

Best Management Practices (BMPs) are measures that are used to protect and improve surface water and groundwater quality. BMPs can be structural, such as oil & grease trap catch basins, nonstructural, such as hazardous waste collection days or managerial, such as employee training on proper disposal procedures.

- ✓ Promote **Best Management Practices (BMPs)** for fuel oil storage, hazardous material handling, storage, disposal, and emergency response planning.
- ✓ Work with farmers, nurseries, and golf courses to ensure that pesticides and fertilizers are being stored within a structure designed to prevent runoff.

**4. Hazardous Materials Storage and Use** – Many small businesses and industries use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in UST/AST. If hazardous materials are improperly stored, used, or disposed, they become potential sources of contamination. Hazardous materials should never be disposed of to a septic system or floor drain leading directly to the ground.

### Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

**Table 2: Land Use in the Watershed**

For more information, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area

Land Uses	Quantity	Threat	Zone II Number	Zone C Source ID	Potential Contaminant Sources*
<b>Agricultural</b>					
Fertilizer Storage or Use	4	M	520, 521, 533		Leaks, spills, improper handling, or over-application of fertilizers
Livestock Operations	1	M	477		Improper handling of manure (microbial contaminants)
Manure Storage or Spreading	6	H	520, 521, 533, 477	01S, 02S	Improper handling of manure (microbial contaminants)
Nurseries	2	M		01S, 02S	Leaks, spills, improper handling, or over-application of fertilizers, pesticides, and other chemicals
Pesticide Storage or Use	5	H	520, 521, 533	01S, 02S	Leaks, spills, improper handling, or over-application of pesticides
<b>Commercial</b>					
Body Shops	1	H	521		Improper management of vehicle paints, solvents, and primer products
Service Stations/ Auto Repair Shops	2	H	521		Spills, leaks, or improper handling of automotive fluids, and solvents
Golf Courses	4	M	477, 520	01S, 02S	Over-application or improper handling of fertilizers or pesticides
Railroad Tracks and Yards	1	H	521		Over-application or improper handling of herbicides, leaks or spills of transported chemicals and maintenance chemicals; fuel storage
<b>Industrial</b>					
Food Processors	1	L	521		Spills, leaks, or improper handling or storage of cleaners and other chemicals; microbial contaminants
<b>Residential</b>					
Fuel Oil Storage (at residences)	Numerous	M	520, 521, 533, 477	01S, 02S	Spills, leaks, or improper handling of fuel oil
Lawn Care/ Gardening	Numerous	M	520, 521, 533, 477	01S, 02S	Over-application or improper storage and disposal of pesticides
Septic Systems/ Cesspools	Numerous	M	520, 521, 533, 477	01S, 02S	Microbial contaminants, and improper disposal of hazardous chemicals



Land Uses	Quantity	Threat	Zone II Number	Zone C Source ID	Potential Contaminant Sources*
<b>Miscellaneous</b>					
Aboveground Storage Tanks	2	M	520	02S	Spills, leaks, or improper handling of materials stored in tanks
Aquatic Wildlife	2	L	520	02S	Microbial contaminants
Fire Training Facilities	2	M	520	02S	Improper use or storage of fuels and other chemicals
Fishing/Boating	2	L	520	02S	Fuel and other chemical spills, microbial contaminants
Oil or Hazardous Material Sites	1	--	521		Tier Classified Oil or Hazardous Materials Sites are not ranked due to their site-specific character. Individual sites are identified in Appendix B.
Schools, Colleges, and Universities	3	M	520, 521	02S	Spills, leaks, or improper handling or storage of fuel oil, laboratory, art, photographic, machine shop, and other chemicals
Small quantity hazardous waste generators	1	M	521		Spills, leaks, or improper handling or storage of hazardous materials and waste
Stormwater Drains/ Retention Basins	Multiple	L	521		Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transmission Line Rights-of-Way Type: electric	1	L		01S	Construction and corridor maintenance, over-application or improper handling of herbicides
Transportation Corridors	5	--	520, 521, 533	01S, 02S	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides
Very Small Quantity Hazardous Waste Generator	3	L	521		Spills, leaks, or improper handling or storage of hazardous materials and waste
<b>Notes:</b> <ol style="list-style-type: none"> <li>When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.</li> <li>For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.</li> <li>For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites.</li> </ol> <ul style="list-style-type: none"> <li><b>THREAT RANKING</b> - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.</li> </ul>					

**Hazardous Materials Storage and Use Recommendations:**

- ✓ Educate local businesses on best management practices for protecting water supplies. Distribute the fact sheet “Businesses Protect Drinking Water” available in Appendix A and on [www.mass.gov/dep/brp/dws/protect.htm](http://www.mass.gov/dep/brp/dws/protect.htm), which provides BMP’s for common business issues.
- ✓ Work with local businesses to register those facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.
- ✓ Educate local businesses on Massachusetts floordrain requirements. See brochure “Industrial Floor Drains” for more information.

**5. Residential Land Uses** – Approximately 25% of the combined Zone II and Zone C consists of residential areas. None of the areas have public sewers, and so all use septic systems. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained they can be a potential source of microbial contamination.
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (USTs and ASTs) can be potential sources of contamination due to leaks or spills of the fuel oil they store.

- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.

**Residential Land Use Recommendations:**

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet “Residents Protect Drinking Water” available in Appendix A and on [www.mass.gov/dep/brp/dws/protect.htm](http://www.mass.gov/dep/brp/dws/protect.htm), which provides BMPs for common residential issues.
- ✓ Work with planners to control new residential developments in the water supply protection areas.
- ✓ Promote BMPs for stormwater management and pollution controls.

**6. Presence of Oil or Hazardous Material Contamination Sites** – The Zone II contains DEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Numbers 3-0002554. Refer to the attached map and Appendix 3 for more information.

**Oil or Hazardous Material Contamination Sites Recommendation:**

- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.

**7. Protection Planning** – Currently, the Town does not have water supply protection controls that meet DEP’s Wellhead Protection regulations 310 CMR 22.21(2). Protection planning protects drinking water by managing the land area that supplies water to a well. A Wellhead Protection Plan coordinates community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. There are resources available to help communities develop a plan for protecting drinking water supply wells.

**Protection Planning Recommendations:**

- ✓ Develop a Wellhead Protection Plan. Establish a protection team, and refer them to <http://mass.gov/dep/brp/dws/protect.htm> for a copy of DEP’s guidance, “Developing a Local Wellhead Protection Plan”.

**Top 5 Reasons to Develop a Local Wellhead and Surface Water Protection Plan**

- ❶ Reduces Risk to Human Health
- ❷ Cost Effective! Reduces or Eliminates Costs Associated With:
  - ♦ Increased monitoring and treatment
  - ♦ Water supply clean up and remediation
  - ♦ Replacing a water supply
  - ♦ Purchasing water
- ❸ Supports municipal bylaws, making them less likely to be challenged
- ❹ Ensures clean drinking water supplies for future generations
- ❺ Enhances real estate values – clean drinking water is a local amenity. A community known for its great drinking water in a place people want to live and businesses want to locate.

- ✓ Coordinate efforts with local officials to compare local wellhead protection controls with current MA Wellhead Protection Regulations 310 CMR 22.21(2). If there are no local controls or they do not meet the current regulations, adopt controls that meet 310 CMR 22.21(2). For more information on DEP land use controls see <http://mass.gov/dep/brp/dws/protect.htm>.
- ✓ If local controls do not regulate floordrains, be sure to include floordrain controls that meet 310 CMR 22.21(2).

Other land uses and activities within the Zone II that are potential sources of contamination are included in Table 2. Refer to Appendix B for more information about these land uses. Identifying potential sources of contamination is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

### Section 3: Source Water Protection Conclusions and Recommendations

#### Current Land Uses and Source Protection:

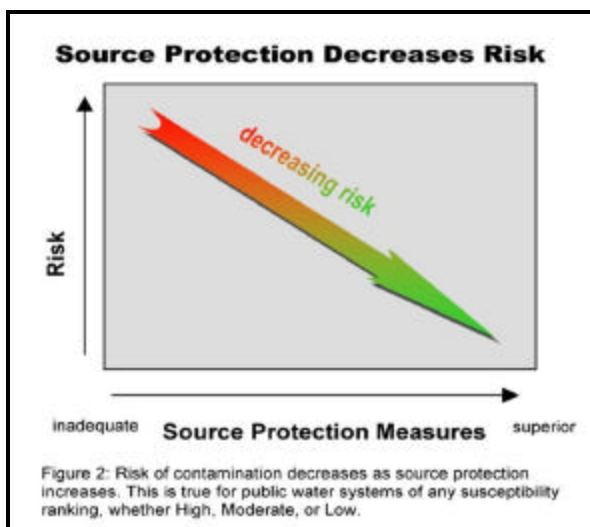
As with many water supply protection areas, the system Zone IIs contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- Pursuing the purchase of the Zone I for Mile Lane Well that is not currently owned by the Ipswich Water Division.
- Obtaining a conservation restriction for the portion of Brown's Well that is on the opposite side of Mitchell Road.
- Pursuing the Right of First Refusal for a parcel adjacent to Brown's Well for the purpose of relocating the well, thereby removing non-water supply activities from the Zone I.
- The acquisition of a considerable portion of the watershed, and the continued pursuit of additional watershed land.
- Receiving a Source Protection Grant through DEP to develop a comprehensive surface water supply protection plan.

#### Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Inspect the Zone I regularly, and when feasible, remove any non-water supply activities.
- ✓ Educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the stormwater drainage in your Zone II and to cooperate on responding to spills or accidents.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.
- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a NRCS farm plan to protect water supplies.
- ✓ Develop and implement a Wellhead Protection Plan.



#### Conclusions:

These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix A.

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community.

The Department's Wellhead Protection Grant Program and Source Protection Grant Program provide funds to assist public water suppliers in addressing water supply source protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the Grant Program.



Please note: each spring DEP posts a new Request for Response for the grant program (RFR).

Other grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: <http://mass.gov/dep/brp/mf/nfpubs.htm>.

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination and land uses. Local information should be maintained and updated periodically to reflect land use changes in the Zone II. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

#### **Additional Documents:**

To help with source protection efforts, more information is available by request or online at [www.state.ma.us/dep/brp/dws](http://www.state.ma.us/dep/brp/dws) including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

#### **For More Information**

Contact Anita Wolovick in DEP's Wilmington Office at (978) 661-7768 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, town boards, and the local media.

#### **Section 4: Appendices**

- A. Protection Recommendations
- B. Regulated Facilities within the Water Supply Protection Area
- C. Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas
- D. Additional Documents on Source Protection

**Table 3: Current Protection and Recommendations**

Protection Measures	Status	Recommendations
<b>Zone A</b>		
Does the Public Water Supplier (PWS) own or control the entire Zone I and/or Zone A?	<b>YES</b> (Essex Road and Fellows Road)	Follow Best Management Practices (BMP's) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials.
	<b>NO</b> (Brown's, Mile Lane, Winthrop 1, 2, & 3, Dow Brook and Bull Brook)	To the extent possible, remove non-water supply activities from each Zone I and prohibited activities in Zone A to comply with DEP's Zone I and Zone A requirements. Investigate options for gaining ownership or control of the Zone I for groundwater sources.
Are the Zone 1 and Zone A posted with "Public Drinking Water Supply" Signs?	<b>YES</b>	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Are the Zone 1 and Zone A regularly inspected?	<b>YES</b>	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone 1 and Zone A?	<b>YES</b> (Essex Road and Fellows Road)	Continue monitoring for non-water supply activities in Zone As.
	<b>NO</b> (Brown's, Mile Lane, Winthrop 1, 2, & 3 Wells, Dow Brook and Bull Brook Reservoirs)	Monitor non-water supply activities in Zone I and prohibited activities in Zone A, and investigate options for removing these activities.
<b>Municipal Controls</b> (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Surface Water Protection Controls that meet 310 CMR 22.20C and Wellhead Protection Controls that meet 310 CMR 22.21(2)	<b>NO</b>	Continue working with the Planning Board and the Board of Selectmen to adopt land use controls that meet 310 CMR 22.21(2) and 310 CMR 22.20C. Refer to <a href="http://www.state.ma.us/dep/brp/dws/">www.state.ma.us/dep/brp/dws/</a> for model bylaws and health regulations, and current regulations.
Do neighboring communities protect the water supply protection areas extending into their communities?	<b>YES</b>	Hamilton has incorporated adjacent community Zone IIs in their Groundwater Protection Overlay District. Submit a copy to Hamilton of the Ipswich Zone II that lies within Hamilton so that it may be incorporated into Hamilton's Groundwater Protection Overlay District Map.
<b>Planning</b>		
Does the PWS have a local surface water and well-head protection plan?	<b>NO</b>	Develop a surface water supply protection plan. Follow "Developing a Local Surface Water Supply Protection Plan" available at: <a href="http://www.state.ma.us/dep/brp/dws/">www.state.ma.us/dep/brp/dws/</a> . Develop a wellhead protection plan. Follow "Developing a Local Wellhead Protection Plan" available at: <a href="http://www.state.ma.us/dep/brp/dws/">www.state.ma.us/dep/brp/dws/</a> .
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	<b>NO</b>	Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a watershed and well-head protection committee?	<b>YES</b>	Reconvene committee; include representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	<b>YES</b>	Floor drain inspection was conducted in conjunction with DEP. For more guidance see "Hazardous Materials Management: A Community's Guide" at <a href="http://www.state.ma.us/dep/brp/dws/files/hazmat.doc">www.state.ma.us/dep/brp/dws/files/hazmat.doc</a>
Does the PWS provide watershed protection education?	<b>SOME</b>	Currently, the only outreach is through the annual Consumer Confidence Report. Increase residential outreach through bill stuffers, school programs, Drinking Water Week activities, and coordination with local groups. Aim additional efforts at commercial, industrial and municipal uses within the Zone II and Zone C.

**APPENDIX A: DEP PERMITTED FACILITIES WITHIN IPSWICH WATER SUPPLY PROTECTION AREAS**

<b>DEP FACILITY NUMBER</b>	<b>FACILITY NAME</b>	<b>STREET ADDRESS</b>	<b>TOWN</b>	<b>PERMITTED ACTIVITY</b>	<b>ACTIVITY CLASS</b>
281545	CHOICE GRAPHICS	195 HIGH STREET	IPSWICH	HANDLER	VERY SMALL QUANTITY GENERATOR
294691	HALLMARK CLEANERS INC.	138 HIGH STREET	IPSWICH	HANDLER	VERY SMALL QUANTITY GENERATOR
34585	PAULS AUTO & TRUCK	176 HIGH STREET	IPSWICH	HANDLER	VERY SMALL QUANTITY GENERATOR
34585	PAULS AUTO & TRUCK	176 HIGH STREET	IPSWICH	HANDLER	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
34585	PAULS AUTO & TRUCK	202 HIGH STREET	IPSWICH	RECYCLER	RECYCLER – BURNER/BLENDER

Note: This appendix includes only those facilities within the water supply protection area(s) that meet state reporting requirements and report to the appropriate agencies. Additional facilities located within the water supply protection area(s) should be considered in local drinking water source protection planning.

## **APPENDIX B – Table of Tier Classified Oil and/or Hazardous Material Sites within Ipswich Water Supply Protection Areas**

DEP's datalayer depicting oil and/or hazardous material (OHM) sites is a statewide point data set that contains the approximate location of known sources of contamination that have been both reported and classified under Chapter 21E of the Massachusetts General Laws. Location types presented in the layer include the approximate center of the site, the center of the building on the property where the release occurred, the source of contamination, or the location of an on-site monitoring well. Although this assessment identifies OHM sites near the source of your drinking water, the risks to the source posed by each site may be different. The kind of contaminant and the local geology may have an effect on whether the site poses an actual or potential threat to the source.

The DEP's Chapter 21E program relies on licensed site professionals (LSPs) to oversee cleanups at most sites, while the DEP's Bureau of Waste Site Cleanup (BWSC) program retains oversight at the most serious sites. This privatized program obliges potentially responsible parties and LSPs to comply with DEP regulations (the Massachusetts Contingency Plan – MCP), which require that sites within drinking water source protection areas be cleaned up to drinking water standards.

For more information about the state's OHM site cleanup process to which these sites are subject and how this complements the drinking water protection program, please visit the BWSC web page at <http://www.state.ma.us/dep/bwsc>. You may obtain site -specific information two ways: by using the BWSC Searchable Sites database at <http://www.state.ma.us/dep/bwsc/sitellst.htm>, or you may visit the DEP regional office and review the site file. These files contain more detailed information, including cleanup status, site history, contamination levels, maps, correspondence and investigation reports, however you must call the regional office in order to schedule an appointment to view the file.

The table below contains the list of Tier Classified oil and/or Hazardous Material Release Sites that are located within your drinking water source protection area.

**Table 1:** Bureau of Waste Site Cleanup Tier Classified Oil and/or Hazardous Material Release Sites (Chapter 21E Sites) - Listed by Release Tracking Number (RTN)

<b>RTN</b>	<b>Release Site Address</b>	<b>Town</b>	<b>Contaminant Type</b>
3-0002554	206 High Street	Ipswich	Oil

For more location information, please see the attached map. The map lists the release sites by RTN.